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INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference 11336/542	FOR FURTHER ACTION		See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)
International application No. PCT/US03/20224	International filing date (day/month/year) 30 June 2003 (30.06.2003)	Priority date (day/month/year) 10 July 2002 (10.07.2002)	
International Patent Classification (IPC) or national classification and IPC IPC(7): G09G 5/00 and US Cl.: 345/582			
Applicant HARMAN INTERNATIONAL INDUSTRIES, INC.			

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.

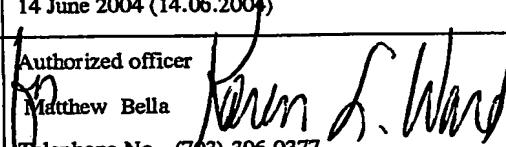
2. This REPORT consists of a total of 8 sheets, including this cover sheet.

This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of 8 sheets.

3. This report contains indications relating to the following items:

- I Basis of the report
- II Priority
- III Non-establishment of report with regard to novelty, inventive step and industrial applicability
- IV Lack of unity of invention
- V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI Certain documents cited
- VII Certain defects in the international application
- VIII Certain observations on the international application

Date of submission of the demand 22 January 2004 (22.01.2004)	Date of completion of this report 14 June 2004 (14.06.2004)
Name and mailing address of the IPEA/US Mail Stop PCT, Attn: IPEA/US Commissioner for Patents P.O. Box 1450 Alexandria, Virginia 22313-1450 Facsimile No. (703)305-3230	Authorized officer Matthew Bella Telephone No. (703) 306-0377 

I. Basis of the report

1. With regard to the elements of the international application:*

 the international application as originally filed. the description:

pages 1-45 as originally filed

pages NONE, filed with the demandpages NONE, filed with the letter of _____. the claims:

pages 47 as originally filed

pages NONE, as amended (together with any statement) under Article 19pages NONE, filed with the demandpages 46 and 48-54, filed with the letter of 11 May 2004 (11.05.2004) the drawings:

pages 1-19 as originally filed

pages NONE, filed with the demandpages NONE, filed with the letter of _____. the sequence listing part of the description:pages NONE, as originally filedpages NONE, filed with the demandpages NONE, filed with the letter of _____.

2. With regard to the language, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item. These elements were available or furnished to this Authority in the following language _____ which is:

 the language of a translation furnished for the purposes of international search (under Rule 23.1(b)). the language of publication of the international application (under Rule 48.3(b)). the language of the translation furnished for the purposes of international preliminary examination (under Rules 55.2 and/or 55.3).

3. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

 contained in the international application in printed form. filed together with the international application in computer readable form. furnished subsequently to this Authority in written form. furnished subsequently to this Authority in computer readable form. The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished. The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.4. The amendments have resulted in the cancellation of: the description, pages NONE the claims, Nos. 3 and 46 the drawings, sheets/fig NONE5. This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).**

* Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17).

** Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.

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III. Non-establishment of opinion with regard to novelty, inventive step and industrial applicability

1. The question whether the claimed invention appears to be novel, to involve an inventive step (to be non-obvious), or to be industrially applicable have not been and will not be examined in respect of:

the entire international application,
 claims Nos. _____

because:

the said international application, or the said claim Nos. _____ relate to the following subject matter which does not require international preliminary examination (*specify*):

the description, claims or drawings (*indicate particular elements below*) or said claims Nos. _____ are so unclear that no meaningful opinion could be formed (*specify*):

the claims, or said claims Nos. _____ are so inadequately supported by the description that no meaningful opinion could be formed.

no international search report has been established for said claims Nos. _____

2. A meaningful international preliminary examination cannot be carried out due to the failure of the nucleotide and/or amino acid sequence listing to comply with the standard provided for in Annex C of the Administrative Instructions:

the written form has not been furnished or does not comply with the standard.
 the computer readable form has not been furnished or does not comply with the standard.

INTERNATIONAL PRELIMINARY EXAMINATION REPORTInternational Application No.
PCT/US03/20224**V. Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement****1. STATEMENT**

Novelty (N)	Claims <u>1, 2, 5-17, 19, 20, 22-24, 26-29, 30-43</u>	YES
	Claims <u>18, 21, 25</u>	NO
Inventive Step (IS)	Claims <u>24, 28, 33, 34, 44, 45 and 47-52</u>	YES
	Claims <u>1-2, 4, 5-23, 25-27, 29-32, 35-43</u>	NO
Industrial Applicability (IA)	Claims <u>1-52</u>	YES
	Claims <u>NONE</u>	NO

2. CITATIONS AND EXPLANATIONS

Please See Continuation Sheet

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

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VII. Certain defects in the international application

The following defects in the form or contents of the international application have been noted:

Claim 4 is objected to under PCT Rule 66.2(a)(iii) as containing the following defect(s) in the form or contents thereof: Claim 4 is dependent upon cancelled claim 3 as stated in Amendment filed 11 May 2004. The dependency of claim 4 should be modified to reference an existing claim.

Supplemental Box
(To be used when the space in any of the preceding boxes is not sufficient)

V. 2. Citations and Explanations:

Claims 1, 2, 4 and 6-17 lack an inventive step under PCT Article 33(3) as being obvious over DiFrancesco in view of Buchner et al.. DiFrancesco discloses the surface development method substantially as claimed. However, DiFrancesco does not explicitly disclose applying the complex texture associating a unique identifier with the surface representation of the object. Buchner et al. discloses the unique identifier as claimed. It would have been obvious to one of ordinary skill in the art to implement the unique identifiers of Buchner et al. in the surface development method of DiFrancesco since the unique identifiers of Buchner et al. describe texture level of details providing improved texturing resolutions.

Claim 5 lacks an inventive step under PCT Article 33(3) as being obvious over DiFrancesco in view of Wang et al.. DiFrancesco discloses the surface development method substantially as claimed. However, DiFrancesco does not explicitly disclose entering a search mode and library mode to find and select an image file from a source texture library component. Wang et al. discloses the search and library modes as claimed. It would have been obvious to one of ordinary skill in the art to implement the search and library modes of Wang et al. in the surface development method of DiFrancesco since the selection of texture images of Wang et al. allows for an improvement in texturing systems providing user personalized texturing system by the selection of user designated image file textures.

Claims 18, 21 and 25 lack novelty under PCT Article 33(2) as being anticipated by Buchner et al.. Buchner et al. discloses the method of developing a surface of an object including the particulars of performing and capturing texture transformations.

Claims 19, 20, 22, 26 and 27 lack an inventive step under PCT Article 33(3) as being obvious over Buchner et al. in view of Baldwin et al.. Buchner et al. discloses the texture development method substantially as claimed. However, Buchner et al. does not explicitly disclose performing the specific transformations to the textures and storing the textures in a library. Baldwin et al. discloses the specific texture transformations and library storage as claimed. It would have been obvious to one of ordinary skill in the art to implement the texture transformation and storage techniques of Baldwin et al. with the texture development methods of Buchner et al. since the techniques of Baldwin et al. provide an improved texturizing system utilizing caching strategies to reduce data bandwidth in a network environment.

Claim 23 lacks an inventive step under PCT Article 33(3) as being obvious over Buchner et al. in view of Wang et al.. Buchner et al. discloses the method of developing a surface of an object substantially as claimed. However, Buchner et al. does not explicitly disclose entering a search mode and library mode to find and select an image file from a source texture library component. Wang et al. discloses the search and library modes as claimed. It would have been obvious to one of ordinary skill in the art to implement the search and library modes of Wang et al. in the surface development method of Buchner et al. since the selection of texture images of Wang et al. allows for an improvement in texturizing systems providing user personalized texturizing systems by the selection of user designated image file textures.

Supplemental Box

(To be used when the space in any of the preceding boxes is not sufficient)

Claims 29-32 and 36-39 lack an inventive step under PCT Article 33(3) as being obvious over Baldwin et al. in view of Buchner et al.. Baldwin et al. discloses the texturizing system substantially as claimed. However, Baldwin et al. does not explicitly disclose storing the textures along with unique identifiers. Buchner et al. discloses the unique identifier as claimed. It would have been obvious to one of ordinary skill in the art to implement the unique identifiers of Buchner et al. in the texturizing system, which includes a texture library, of Baldwin et al. since the unique identifiers of Buchner et al. describe texture level of details providing improved texturing resolutions and access within storage.

Claims 40-43 lack an inventive step under PCT Article 33(3) as being obvious over the prior art of the immediately preceding paragraph and further in view the obviousness to implement the texturizing system utilizing an electronic object of many different types, storing the identifiers with the object, which is based upon the preferred choice of the designer and/or to which one best suits the application at hand. Neither, Baldwin et al. nor Buchner et al. explicitly disclose the electronic object being of three-dimensional image or model forms whereby the objects are stored with their unique identifiers however, at the time the invention was made, it would have been obvious to a person of ordinary skill in the art to utilize the texturizing and storing techniques of Baldwin et al. and Buchner et al. with three-dimensional data images or models, storing unique identifiers with the models because the mere fact of where data is stored and what data is processed is a matter of design choice as preferred by the designer and/or to which best suits the application at hand.

Claim 35 lacks an inventive step under PCT Article 33(3) as being obvious over Baldwin et al. in view of Wang et al.. Baldwin et al. discloses the texturizing system substantially as claimed. However, Baldwin et al. does not explicitly disclose a texture selection component having a library mode and a search mode to identify textures. Wang et al. discloses the search and library modes as claimed. It would have been obvious to one of ordinary skill in the art to implement the search and library modes of Wang et al. in the texturizing system of Baldwin et al. since the selection of texture images of Wang et al. allows for an improvement in texturizing systems providing user personalized texturizing systems by the selection of user designated image file textures.

Claims 24, 28, 33 and 34 meet the criteria set out in PCT Article 33(2)-(3), because the prior art does not teach or fairly suggest locking the source texture to prevent further transformations (24), identifying the source and complex textures by selecting unique identifiers from a group of unique identifiers that have been allocated from a master texture library (28), the graphical user interface comprises source and complex transformation operation components used to create source and complex transformation procedures (33) and the source and complex transformation procedures are created with source and complex texture manipulation displays provided by source and complex transformation operation components (34).

Claims 44, 45 and 47-50 meet the criteria set out in PCT Article 33(2)-(3), because the prior art does not teach or fairly suggest instructions stored in a memory device to capture a transformation procedure as executable instructions when the transformation procedure is performed.

Claims 51 and 52 meet the criteria set out in PCT Article 33(2)-(3), because the prior art does not teach or fairly suggest a data structure that includes a second field containing a name of an image file when the data represents a source texture and a third field containing a unique identifier of a transformation procedure when the data structure represents a complex texture.

Claims 1-52 meet the criteria set out in PCT Article 33(4), and thus have industrial applicability because the subject matter claimed can be made or used in industry.

With regard to applicant's amendments/remarks filed 11, May 2004, applicant argues, in regards to claims 1 and 9, that neither DiFrancesco nor Buchner disclose the creation and storage of transformation procedures that reflects the transformation of a source texture associated by a unique identifier. The office points to column 5, lines 22-52 of Buchner wherein Buchner discloses equations for transforming texture data, these equations having indexed variables which are associated with the source and output textures. Additionally, in column 14, lines 53-60, Buchner discloses the invention implemented in computer software, the software executed to carry out the texture transformations as seen in Figure 2, 3A and 4A of Buchner.

With regard to applicant's amendments/remarks filed 11, May 2004, applicant argues, in regards to claim 18, that Buchner does not disclose the capture of any instructions in any texture procedure and that the textures are associated by a unique identifier. The office points to column 5, lines 22-52 of Buchner wherein Buchner discloses equations for transforming texture data, these equations having indexed variables which are associated with the source and output textures. Additionally, the office interprets Buchner to inherently disclose capturing the texture transformation procedures as the above described equations must be stored and therefore captured in memory, in order for execution. These equations instruct the type of execution of texture data to be performed by the computer system and are therefore interpreted as texture transformation operations.

With regard to applicant's amendments/remarks filed 11, May 2004, applicant argues, in regards to claim 29, that Baldwin fails to

INTERNATIONAL PRELIMINARY EXAMINATION REPORTInternational application No.
PCT/US03/20224**Supplemental Box**
(To be used when the space in any of the preceding boxes is not sufficient)

teach that a transformation procedure that is a set of executable instructions can be associated with a surface of an electronic representation of an object. The applicant has amended claim 29 to now include the above argued feature and therefore, the office points to column 5, lines 22-52 of Buchner wherein Buchner discloses equations for transforming texture data, these equations having indexed variables which are associated with the source and output textures. Additionally, Buchner discloses that using textures to provide visual detail for polygon surfaces in conventionally well known (see column 1, lines 32-34).

With regard to applicant's amendments/remarks filed 11, May 2004, applicant argues, in regards to claim 37, that Buchner fails to disclose a component operable to form a source transformation procedure from a least one transformation performed on the source texture. The office points to column 5, lines 22-52 of Buchner wherein Buchner discloses equations for transforming texture data, these equations having indexed variables which are associated with the source and output textures. Additionally, the office interprets Buchner to inherently disclose capturing the texture transformation procedures as the above described equations must be stored and therefore captured in memory, in order for execution. These equations instruct the type of execution of texture data to be performed by the computer system and are therefore interpreted as texture transformation operations.

With regard to applicant's amendments/remarks filed 11, May 2004, claims 44, 45, and 47-52 are now indicated as meeting the criteria set out in PCT article 33(2)-(3).

----- NEW CITATIONS -----

NONE

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PATENT

Case No. 11336-542 (P03002WOV1)

Date of Deposit 30 June 2003

CLAIMS

What is claimed is:

1. A method of developing a surface of an electronic representation of an object, the method comprising:
 - providing an electronic representation of an object;
 - selecting a source texture as a function of the visual appearance of the object;
 - selectively transforming the source texture to form at least part of a complex texture representative of a surface of the object;
 - creating a transformation procedure that reflects the transformation of the source texture;
 - storing the transformation procedure in association with a unique identifier;
 - associating the unique identifier with a surface of the electronic representation of the object; and
 - selectively applying the complex texture to the surface of the electronic representation of the object based on the associated unique identifier.
2. The method of claim 1, where applying the source texture comprises associating a transformation procedure with the surface of the electronic representation of the object, where the transformation procedure is performed to form the complex texture.
3. (Cancelled)
4. The method of claim 3, where selectively applying the complex texture comprises performing the transformation procedure to transform the source texture and form the complex texture on the surface when the electronic representation is displayed.
5. The method of claim 1, where selecting a source texture comprises entering one of a search mode and a library mode to find and select an image file from a source texture category of a library component.

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11. The method of claim 9, further comprising associating a unique identifier of a source texture with another surface of the electronic representation.

12. The method of claim 9, further comprising the initial act of storing an image file that is an electronic representation of a texture of the object as the source texture.

13. The method of claim 9, further comprising extracting an electronic representation of a texture of the object from an electronic image of the object to create the source texture.

14. The method of claim 9, where storing a transformation procedure comprises creating a source transformation procedure that includes at least one of clipping, colonizing, mirroring or rotating a source texture or combinations thereof.

15. The method of claim 9, where storing a transformation procedure comprises creating a complex transformation procedure that includes at least one of repeating, scaling, positioning or ordering of a source texture or combinations thereof.

16. The method of claim 9, where storing a transformation procedure comprises assigning a unique identifier to the transformation procedure.

17. The method of claim 16, where associating the transformation procedure comprises storing the unique identifier assigned to the transformation procedure in the electronic representation of the object in association with a surface of the electronic representation.

18. A method for developing a surface of an electronic representation of an object, the method comprising:

performing a first transformation of a source texture with a source texture manipulation display;

capturing the first transformation as instructions in a source transformation procedure;

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performing a second transformation of the source texture with a complex texture formation display;

capturing the second transformation as instructions in a complex transformation procedure; and

identifying the source transformation procedure and the complex transformation procedure with a unique identifier, where the unique identifier is storable in association with a surface of an electronic representation of an object.

19. The method of claim 18, where performing a first transformation comprises selectively clipping, colorizing, rotating and mirroring the source texture.

20. The method of claim 18, where performing a second transformation comprises selectively repeating, scaling, positioning and ordering the source texture.

21. The method of claim 18, where identifying the source transformation procedure and the complex transformation procedure comprises combining the source transformation procedure and the complex transformation procedure to form a transformation procedure.

22. The method of claim 18, further comprising cataloging the source transformation procedure and the complex transformation procedure in a complex texture category of a texture library.

23. The method of claim 18, comprising the initial act of identifying the source texture within a texture directory by one of a search mode and a library mode; and selecting the source texture from a source texture category of a texture library.

24. The method of claim 18, where capturing the second transformation comprises locking the source texture to prevent further transformations.

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25. The method of claim 18, where capturing the first and second transformations comprises including a unique ID of the source texture in the respective source and complex transformation procedures.

26. The method of claim 18, further comprising storing the source and complex transformation procedures in a local texture library; and synchronizing the local texture library with a master texture library.

27. The method of claim 26, where synchronizing the local texture library and the master texture library comprises identifying inconsistencies between attributes associated with the source and complex transformation procedures stored in the local texture library and attributes associated with the same source and complex transformation procedures in the master texture library as a function of the unique identifier.

28. The method of claim 26, where identifying the source transformation procedure and the complex transformation procedure with a unique identifier comprises selecting the unique identifier from a group of unique identifiers that have been allocated from the master texture library.

29. A texturizing system for developing a surface of an electronic representation of an object, the texturizing system comprising:

a computer;

a library component operable in the computer, where the library component includes a source texture having a unique identifier; and

a graphical user interface component in communication with the library component, where the graphical user interface component is operable to develop a transformation procedure to transform the source texture to form at least part of a complex texture,

where the transformation procedure is a set of executable instructions that can be associated with a surface of an electronic representation of an object and executed to provide texturization of the surface when the electronic representation is displayed.

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30. The texturizing system of claim 29, where the transformation procedure is storable in the library component with a unique identifier.

31. The texturizing system of claim 29, where the transformation procedure is a set of executable instructions that include a unique identifier of the source texture.

32. The texturizing system of claim 29, where the library component includes a source texture category operable to store the source texture, a complex texture category operable to store the transformation procedure and a texture directory to display the contents of the source texture category and the complex texture category in a tree structure.

33. The texturizing system of claim 29, where the graphical user interface component includes a source texture operation component and a complex texture composition component, and the transformation procedure comprises a source transformation procedure created with the source texture operation component, and a complex transformation procedure created with the complex texture composition component.

34. The texturizing system of claim 33, where the source transformation procedure is created with a source texture manipulation display provided by the source texture operation component and the complex transformation procedure is formed with a complex texture formation display provided by the complex texture composition component.

35. The texturizing system of claim 29, where the graphical user interface component includes a texture selection component, the texture selection component having a library mode and a search mode to identify the source texture used in development of the transformation procedure.

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36. The texturizing system of claim 29, where the computer comprises a server computer having a master texture library and a client computer having a local texture library, the library component operable to synchronize the master texture library of the server computer with the local texture library of the client computer when the client computer connects to the server computer.

37. A texturizing system for developing a surface of an electronic representation of an object, the texturizing system comprising:

a computer;

a library component operable in the computer, the library component having a source texture category and a complex texture category, where the library component is operable to categorize a source texture in the source texture category with a unique identifier;

a source texture operation component operable to form a source transformation procedure from at least one transformation performed on the source texture; and

a complex texture composition component operable to form a complex transformation procedure representative of a complex texture, where the complex transformation procedure and the source transformation procedure are combined to form a transformation procedure that is categorized in the complex texture category with a unique identifier,

where the unique identifier of the source texture and the unique identifier of the transformation procedure can be selectively associated with a surface of an electronic representation of an object to texturize the surface.

38. The texturizing system of claim 37, where the source texture comprises an image file.

39. The texturizing system of claim 37, where the transformation procedure includes the unique identifier of the source texture.

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40. The texturizing system of claim 37, where the unique identifier of the source texture and the unique identifier of the transformation procedure are storeable as part of the electronic representation of the object.

41. The texturizing system of claim 37, where the complex texture is storable as an image file, the image file capable of being categorized as a source texture by assignment of a unique identifier.

42. The texturizing system of claim 37, where the electronic representation of the object is a three-dimensional electronic image.

43. The texturizing system of claim 37, where the electronic representation of the object is a three-dimensional electronic model.

44. A texturizing system for developing a surface of an electronic representation of an object, the texturizing system comprising:

a memory device;

an electronic representation of an object stored in the memory device;

instructions stored in the memory device to select a source texture;

instructions stored in the memory device to perform a transformation procedure to form a complex texture with the source texture;

instructions stored in the memory device to capture the transformation procedure as executable instructions; and

instructions stored in the memory device to execute the transformation procedure to apply the complex texture to a surface of the electronic representation when the electronic representation is displayed.

45. The texturizing system of claim 44, where instructions stored in the memory device to execute the transformation procedure to apply the complex texture comprise instructions stored in the memory device to assign a unique identifier to the transformation procedure and instructions stored in the memory device to associate the unique identifier with the surface.

46. (Cancelled)

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47. The texturizing system of claim 44, further comprising instructions stored in the memory device to apply the source texture to a surface of the object.

48. The texturizing system of claim 44, where instructions in the memory device to select a source texture comprises instructions stored in the memory device to access one of a search mode and a library mode to identify the source texture.

49. The texturizing system of claim 44, further comprising instructions stored in the memory device to save the complex texture as a source texture.

50. The texturizing system of claim 44, further comprising instructions stored in the memory device to under lay a background image within the complex texture.

51. A computer readable medium having stored thereon a data structure comprising:

a first field containing a unique identifier;

a second field containing a name of an image file when the data structure represents a source texture; and

a third field containing a unique identifier of a transformation procedure when the data structure represents a complex texture.

52. The computer readable medium of claim 51, where the transformation procedure is a set of executable instructions that are executed to transform the source texture to form the complex texture.